

CLAIMS:

1 1. (Currently Amended) A valve assembly adapted to be positioned into a urethra in a
2 mammal, including humans, the valve assembly comprising:

3 a) a valve holder comprising a substantially cylindrically shaped body to be inserted into
4 the urethra, and

5 b) a valve housing comprising a valve controlling an urine flow from a patients bladder,
6 the valve assembly ~~being arranged~~ adapted to be arranged in a sealed manner between the walls
7 of the urethra,

8 wherein the cylindrical valve holder comprises a shape memory alloy to provide an
9 expandable element ~~having the possibility~~ adapted to expand after the insertion of said valve
10 holder to increase its diameter at its upper end to provide a frustoconical portion, whereby the
11 increase of the diameter of the cylinder at its upper end is more than 15% and whereby the
12 increase of the diameter of said cylindrical valve holder is temperature dependent; and

13 wherein the valve holder comprises at least two frustoconically shaped portions at one
14 end of the cylinder corresponding to said frustoconical portion.

1 2. (Previously Presented) A valve assembly according to claim 1, wherein the
2 cylindrical valve holder increase its diameter at its lower end.

1 3. (Cancelled)

1 4. (Cancelled)

1 5. (Currently Amended) A valve assembly according to claim 1, wherein the valve
2 holder comprises said at least two frustoconically shaped portions at one end of the cylinder as

well as at least one frustoconically shaped portion at the opposite end thereof, both of which correspond to said frustoconical portion.

6. (Previously Presented) A valve holder according to claim 1, wherein the holder and the housing are detachable from each other when in place in the urethra.

7. (Previously Presented) A valve assembly according to claim 1, wherein the holder and the housing are detachable from each other.

8. (Currently Amended) A valve assembly according to claim [[1]] 5, wherein the valve holder includes a first portion ~~exhibiting a frustoconical shape~~ corresponding to said at least two frustoconically shaped portions at one end of the cylinder, a second portion being essentially cylindrical and a third portion ~~exhibiting a frustoconical shape~~ corresponding to said at least one frustoconically shaped portion at the opposite end and directed in opposite direction in relation to the first portion.

9. (Cancelled)

10. (Previously Presented) A valve assembly according to claim 1, wherein the holder is helix shaped wire arranged onto the valve housing.

11. (Previously Presented) A valve assembly according to claim 1, wherein the holder comprises a helix shaped wire threaded on external threads arranged on the outside of the valve housing.

12. (Previously Presented) A valve assembly according to claim 11, wherein the increase of the diameter of a helix shaped wire at its upper end is more than 15 %.

1 13. (Previously Presented) A valve assembly according to claim 11, wherein the
2 increase of the diameter of the cylinder at its upper end is at least 40 %.

1 14. (Previously Presented) A valve assembly according to claim 12, wherein the
2 increase of the diameter of a helix shaped wire at its upper end is at least 40 %.

1 15. (Previously Presented) A valve assembly according to claim 12, wherein the
2 increase of the diameter of a helix shaped wire at its upper end after expansion is at least 25 %.

1 16. (Previously Presented) A valve assembly according to claim 12, wherein the
2 increase of the diameter of a helix shaped wire at its lower end is at least 10 %.

1 17. (Previously Presented) A valve assembly according to claim 12, wherein the
2 increase of the diameter of a helix shaped wire at its lower end after expansion is at least 20 %.

1 18. (Previously Presented) A valve assembly according to claim 1, wherein the increase
2 of the diameter of the cylindrical portion of the valve holder is less than 80 %.

1 19. (Previously Presented) A valve assembly according to claim 1, wherein said valve
2 holder comprise an expandable element having the possibility to shrink upon removal of said
3 valve housing.

1 20. (Previously Presented) A valve assembly according to claim 1, wherein the total
2 length of the assembly is less than the length of the female urethra where it is intended to be
3 inserted.

1 21. (Previously Presented) A valve assembly according to claim 1, wherein the total
2 length of the valve is less than 60 mm.

1 22. (Previously Presented) A valve assembly according to claim 1, wherein the total
2 length of the valve assembly is between 5 and 40 mm, preferably 5-30 mm.

1 23. (Previously Presented) A valve assembly according to claim 1, wherein at least a
2 part of the length of the valve body of said valve assembly has a bending stiffness higher than
3 0.0004 Nm² (Newton square meter).

1 24. (Previously Presented) A valve assembly according to claim 1, wherein at least a
2 part of the length of the valve body of said valve assembly has a bending stiffness higher than
3 0.0004 Nm² (Newton square meter) and that at least a part of the length of the valve body of said
4 valve assembly has a bending stiffness lower than 0.05 Nm² (Newton square meter).

1 25. (Previously Presented) A valve assembly according to claim 1, wherein the part of
2 the valve assembly with bending stiffness higher than 0.0004 Nm² (Newton square meter) is less
3 than 80% of the length of the female urethra where it is intended to be inserted.

1 26. (Previously Presented) A valve assembly according to claim 1, wherein the part of
2 the valve assembly with bending stiffness higher than 0.0004 Nm² (Newton square meter) is less
3 than 50mm.

4 27. (Previously Presented) A valve assembly according to claim 1, wherein the part of
5 the valve assembly with bending stiffness higher than 0.0004 Nm² (Newton square meter) is less
6 than 40mm.

1 28. (Previously Presented) A valve assembly according to claim 1, wherein the part of
2 the valve assembly with bending stiffness higher than 0.0004 Nm² (Newton square meter) is

3 between 5 and 60 mm.

1 29.(Withdrawn) A valve adapted to be positioned into a urethra and in a valve assembly
2 according to claim 1, said valve for emptying a patient's urine collected within his bladder,
3 comprising: a tubular vane housing having an upper, lower, and central part and a channel
4 therein; a valve body situated at the lower part of the housing a valve seat situated below said
5 valve body, said central part having at least one drainage hole extending through said tubular
6 housing, said drainage hole located in the area between the upper end and the valve seat, said
7 channel of the valve housing in communication with said drainage hole, said valve body being
8 arranged to be moved in a longitudinal wherein the total length of the valve is less than 60 mm.

1 30.(Withdrawn) A valve adapted to be positioned into a urethra and in a valve assembly
2 according to claim 1, said valve for emptying a patient's urine collected within his bladder,
3 comprising: a tubular valve housing having an upper, lower, and central part and a channel
4 therein; a valve body situated at the lower end of the housing and attached to a valve rod which
5 in an opposite end thereof comprises a magnet accommodated in the upper portion of the valve;
6 and a valve seat situated below said valve body, said central part having at least one drainage
7 hole extending through said tubular housing, said drainage hole located in the area between the
8 upper part and the valve seat, said channel of the valve housing in communication with said
9 drainage hole, said valve body being arranged to be moved in a longitudinal direction by means
10 of a part of the valve rod extending below said valve rod.

1 31.(Withdrawn) A valve according to claim 1,
2 wherein the valve housing comprises a magnetic controlled valve.

1 32.(Withdrawn) A valve according to claim 1,

2 wherein the valve is electro-magnetically controlled.

1 33. (Previously Presented) A valve according to claim 1,

2 wherein the valve is mechanically controlled.

1 34. (Previously Presented) A valve according to claim 1,

2 wherein the valve is electro-magnetically or mechanically controlled independent of the pressure

3 in the bladder to be emptied.

1 35. (Previously Presented) A valve according to claim 1,

2 wherein the valve may be opened by means of an opening force being between 10 to 200 mN.

1 36. (Previously Presented) A valve according to claim 35, wherein the valve may be

2 opened by means of a opening force being between 20 to 100 mN.

1 37. (Previously Presented) A valve according to claim 30, wherein the valve is partly

2 flexible, and partly rigid, whereby the rigid part is shorter than 50 mm.

1 38. (Previously Presented) A method for emptying a patient's urine bladder, whereby the

2 valve assembly in accordance with claim 1 is inserted in the urethra and influenced at time

3 intervals to open and empty said bladder.